CLAIMS

What is claimed is:

1. A method for communicating information from a sender to a receiver through a network having a first path and a second path comprising:

receiving an information stream;

generating at least a first stream and a second stream in response to the information stream;

sending the first stream through the first path; and

sending the second stream through the second path.

2. The method of claim 1 further comprising the steps of:

receiving the first stream;

receiving the second stream;

recovering the information stream based on the first stream, the second stream, or both the first stream and the second stream.

3. The method of claim 1 wherein the step of sending the first stream through the first path includes

identifying the first path by employing a path diversity service; and

wherein the step of sending the second stream through the second path includes

identifying the second path by employing a path diversity service.

4. The method of claim 1 wherein the step of sending the first stream through the first path and the step of sending the second stream through the second path includes

providing a source address, a destination address, a number of paths, the first stream and the second stream to a path diversity aware node;

the path diversity aware node identifying a first path and a second path; and

the path diversity aware node sending the first stream through the first path and

sending the second stream through the second path.

5. The method of claim 1 further comprising:

dynamically changing the number of paths based on the communication conditions between the sender and receiver.

6. The method of claim 1 further comprising:

dynamically changing at least one node of the first path or the second path based on the communication conditions between the sender and receiver.

7. The method of claim 1 wherein the network includes a first relay having a first address and a second relay having a second address;

wherein the step of sending the first stream through the first path includes sending at the first stream through the first relay by addressing the first stream with the first address; and

wherein the step of sending the second stream through the second path includes sending the second stream through the second relay by addressing the second stream with the second address.

8. The method of claim 1 wherein the step of sending the first stream through a first path includes

specifying a first source route for the first stream; and

sending the first stream along the first source route; and

wherein the step of sending the second stream through a second path includes

specifying a second source route for the second stream; and

sending the second stream along the second source route.

9. The method of claim 8 wherein the first source route and the second source route is one of a loose source route that specifies a subset of nodes of the route and a strict source route that specifies all the nodes of the route.

10. The method of claim 1 wherein the network is a cellular telephone network, a packet network, an Internet, an Intranet, a local area network, a wireless local area network, a wireless local area conforming to IEEE 802.11 specifications, and a local area network conforming to Bluetooth specifications.

11. The method of claim 1 wherein the information is one of text information, file information, video information, audio information, voice information, multimedia information, control information, time sensitive information, time-sensitive video information, time-sensitive video information, and time-sensitive voice information, time-sensitive multi-media information, and time-sensitive control information.

12. A system for communicating information through a network comprising:

a sender for receiving an information stream to be communicated;

a multiple stream generator for generating multiple streams that include at least a first stream and a second stream in response to the information stream; and

a path diversity unit coupled to the multiple stream generator for receiving the first stream and the second stream and for sending the first stream through a first path in the network and sending the second stream through a second path in the network.

13. The system of claim 12 further comprising:

a receiver for receiving the first stream and receiving the second stream; and

a recovery unit for recovering the information stream based on the first stream, the second stream, or both the first stream and the second stream.

14. The system of claim 12 wherein the network includes a first relay having a first address and a second relay having a second address; and

wherein the path diversity unit sends the first stream through the first relay by addressing the first stream with the first address; and sends the second stream through the second relay by addressing the second stream with the second address.

15. The system of claim 12 wherein the sender includes

an IP source router for specifying a first source route for the first stream, sending the first stream along the first source route, specifying a second source route for the second stream, and sending the second stream along the second source route.

16. The system of claim 15 wherein the first source route and the second source route is one of a loose source route that specifies a subset of nodes of the route and a strict source route that specifies all the nodes of the route.

17. The system of claim 12 wherein the network is a cellular telephone network, a packet network, the Internet, an Intranet, a local area network, a wireless local area network, a wireless local area conforming to IEEE 802.11 specifications, and a local area network conforming to the Bluetooth specifications.

18. The system of claim 12 wherein the information is one of text information, file information, video information, audio information, voice information, multimedia information, control information, time sensitive information, time-sensitive video information, time-sensitive video information, time-sensitive voice information, time-sensitive multi-media information, and time-sensitive control information.

19. The system of claim 12 wherein the path diversity unit performs sending the first stream and the second stream through a first path and second path, respectively, by employing a path diversity aware node.

20. The system of claim 12 wherein the path diversity unit performs path identification by employing a path diversity service; wherein the path diversity service provides a description of the paths to utilize in response to path parameters.

21. The system of claim 20 wherein the path parameters can include a source address, destination address, number of paths, and quality of service requirements for each path; and wherein the quality of service requirements for each path can include bandwidth, delay and packet loss.

22. The system of claim 12 wherein the path diversity unit specifies the paths by one of specifying all nodes to be traversed and a subset of nodes to be traversed; and wherein the subset of nodes can include one of at least one node in the beginning portion of the path, at least one node in the middle portion of the path, and at least one node in the end portion of the path.

23. The system of claim 12 wherein the path diversity unit dynamically changes at least one node of the first path or second path during transmission in response to communication conditions between the sender and receiver.

24. The system of claim 12 wherein the path diversity unit dynamically changes the number of paths employed during transmission in response to communication conditions between the sender and receiver.

25. The system of claim 12 having multiple paths and multiple streams; wherein the path diversity unit assigns streams to paths in one of a deterministic fashion, random fashion, and pseudo-random fashion.

26. The system of claim 12 further comprising:

at least two different Internet Service Providers for connecting the sender to the network;

wherein the path diversity unit achieves path diversity by sending different streams to each of the different Internet Service Providers.

27. The system of claim 12 further comprising:

at least two different connection technologies for connecting the sender to the network;

wherein the path diversity unit achieves path diversity by sending a first stream through a first connection technology and sending a second stream through a different connection technology.

28. The system of claim 2 wherein the different connection technologies include a satellite link, a wired link, a wireless link, and a cellular link.